

IN THE CLAIMS

Please amend the claims as follows. This listing of claims replaces all prior versions.

LISTING OF THE CLAIMS:

1. (Currently Amended) A method for extracting an intracellular protein from a fermentation broth comprising the steps of:

(a) intermixing a sufficient quantity of a ~~water miscible alcohol or a~~ glycol ether with an aqueous fermentation broth at a temperature to form ~~at which~~ a single aqueous phase comprising a protein, ~~the water miscible alcohol or the~~ glycol ether, and water is formed;

(b) separating the single aqueous phase comprising the protein, ~~the water miscible alcohol or the~~ glycol ether, and water formed in step (a) from solid biomass impurities; and, optionally,

(c) recovering the protein from the single aqueous phase obtained in step (b) by any conventional protein recovery method.

2. (canceled)

3. (canceled)

4. (Previously Presented) The method of claim 1, wherein the glycol ether is miscible with water in the temperature range from about 20°C to about 80°C.

5. (Previously Presented) The method of claim 1, wherein the glycol ether is ethylene glycol n-propyl ether, propylene glycol ethyl ether, propylene glycol methyl ether, diethylene glycol n-butyl ether, diethylene glycol ethyl ether, diethylene glycol methyl ether, triethylene glycol n-butyl ether, triethylene glycol n-pentyl ether, triethylene glycol ethyl ether, triethylene glycol methyl ether, or diethylene glycol dimethyl ether.

6. (Previously Presented) The method of claim 1, wherein the glycol ether is miscible with water at the temperature of about 20°C and partially miscible when the glycol ether and water mixture is heated above 20°C.

7. (Original) The method of claim 6, wherein the glycol ether is ethylene glycol n-butyl ether, ethylene glycol iso-butyl ether, propylene glycol n-propyl ether, dipropylene glycol ethyl ether, dipropylene glycol iso-propyl ether, diethylene glycol 2-methylbutyl ether, diethylene glycol n-pentyl ether), triethylene glycol n-heptyl ether, triethylene glycol n-hexyl ether, diethylene glycol ethyl ether acetate, or diethylene glycol diethyl ether.

8. (Currently Amended) The method of claim 1, wherein step (c) comprises separation of ~~the water-miscible alcohol or~~ the glycol ether from the water to form two phases, wherein the protein remains predominantly in ~~only one of the~~ aqueous phases, followed by recovery of the protein therefrom.

9. (Original) The method of claim 1 wherein steps (a)-(c) are carried out at a pH from about 4 to about 11.

10. (Currently Amended) A method for extracting an intracellular protein from a fermentation broth comprising the steps of:

(a) intermixing a sufficient quantity of a partially water miscible glycol ether with an aqueous fermentation broth at a temperature such that two phases are formed, a first aqueous phase comprising a protein, partially water miscible glycol ether, and water; and a second phase comprised mainly of partially miscible glycol ether;

(b) separating the first aqueous phase formed in step (a) from the second phase,

(c) separating the first aqueous phase obtained in step (b) from solid biomass impurities; and, optionally,

(d) recovering the protein from the first aqueous phase obtained in step (c) by any conventional protein recovery method.

11. (Previously Presented) The method of claim 10, wherein the glycol ether is miscible with water at the temperature of about 20°C and partially miscible with water when the temperature is heated above 20°C.

12. (Original) The method of claim 11, wherein the glycol ether is ethylene glycol n-butyl ether, ethylene glycol iso-butyl ether, propylene glycol n-propyl ether, dipropylene glycol

ethyl ether, dipropylene glycol iso-propyl ether, diethylene glycol 2-methylbutyl ether, diethylene glycol n-pentyl ether), triethylene glycol n-heptyl ether, triethylene glycol n-hexyl ether, diethylene glycol ethyl ether acetate, or diethylene glycol diethyl ether.

13. (Original) The method of claim 10, wherein the glycol ether forms a separate phase with water at about 20°C and separates further upon heating.

14. (Original) The method of claim 13, wherein the glycol ether is ethylene glycol 2-methylbutyl ether, ethylene glycol n-hexyl ether, ethylene glycol n-pentyl ether, propylene glycol n-butyl ether, propylene glycol tert-butyl ether, propylene glycol iso-propyl ether, dipropylene glycol n-butyl ether, dipropylene glycol n-propyl ether, diethylene glycol n-hexyl ether, tripropylene glycol n-butyl ether, tripropylene glycol n-propyl ether, ethylene glycol ethyl ether acetate, ethylene glycol n-butyl ether acetate, diethylene glycol n-butyl ether acetate, propylene glycol methyl ether acetate, ethylene glycol diethyl ether, ethylene glycol dibutyl ether, diethylene glycol dibutyl ether, or dipropylene glycol dimethyl ether.

15. (Original) The method of claim 10, wherein steps (a)-(c) are carried out at a pH from about 4 to about 11.

16. (Currently Amended) A method for extracting an intracellular protein from a fermentation broth comprising the steps of:

(a) intermixing a sufficient quantity of a partially water miscible glycol ether with an aqueous fermentation broth at a temperature such that two phases are formed, a first aqueous phase comprised mainly of a partially water miscible glycol ether, and water; and a second phase comprising a protein and partially miscible glycol ether;

(b) separating the second phase formed in step (a) from the first aqueous phase,

(c) separating the second phase obtained in step (b) from solid biomass impurities; and, optionally,

(d) recovering the protein from the second phase obtained in step (c) by any conventional protein recovery method.

17. (Previously Presented) The method of claim 16, wherein the glycol ether is miscible with water at the temperature of about 20°C and partially miscible with water when the

temperature is heated above 20°C.

18. (Original) The method of claim 17, wherein the glycol ether is ethylene glycol n-butyl ether, ethylene glycol iso-butyl ether, propylene glycol n-propyl ether, dipropylene glycol ethyl ether, dipropylene glycol iso-propyl ether, diethylene glycol 2-methylbutyl ether, diethylene glycol n-pentyl ether), triethylene glycol n-heptyl ether, triethylene glycol n-hexyl ether, diethylene glycol ethyl ether acetate, or diethylene glycol diethyl ether.

19. (Original) The method of claim 16, wherein the glycol ether forms a separate phase with water at about 20°C and separates further upon heating.

20. (Original) The method of claim 16, wherein the glycol ether is ethylene glycol 2-methylbutyl ether, ethylene glycol n-hexyl ether, ethylene glycol n-pentyl ether, propylene glycol n-butyl ether, propylene glycol tert-butyl ether, propylene glycol iso-propyl ether, dipropylene glycol n-butyl ether, dipropylene glycol n-propyl ether, diethylene glycol n-hexyl ether, tripropylene glycol n-butyl ether, tripropylene glycol n-propyl ether, ethylene glycol ethyl ether acetate, ethylene glycol n-butyl ether acetate, diethylene glycol n-butyl ether acetate, propylene glycol methyl ether acetate, ethylene glycol diethyl ether, ethylene glycol dibutyl ether, diethylene glycol dibutyl ether, or dipropylene glycol dimethyl ether.

21. (Original) The method of claim 16, wherein steps (a)-(c) are carried out at a pH from about 4 to about 11.